

## THE NOMENCLATURE OF *PARALUCIA PYRODISCUS* (DOUBLEDAY) (LEPIDOPTERA: LYCAENIDAE)

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### Abstract

A lectotype is selected for the name *Lycaena pyrodiscus* Doubleday, first used in synonymy and subsequently validated. By selecting as the lectotype a specimen of *Lucia pyrodiscus* Rosenstock the current nomenclature can be minimally disturbed.

### Introduction

In south-eastern Australia the tribe Lucini contains three common copper coloured butterflies. The current scientific names for these are, *Lucia limbaria* (Swainson), *Paralucia aurifera* (Blanchard) and *Paralucia pyrodiscus* (Rosenstock) (e.g. Common and Waterhouse 1981). The species known as *P. pyrodiscus* (Rosenstock) has a remarkable nomenclatural history which it has been necessary to understand for the preparation of a "Checklist of Australian Lepidoptera" currently in progress.

### Discussion

Swainson (1833) illustrated an Australian lycaenid naming it *Polyommatus (Lucia) limbaria* Swainson. Doubleday (1847) used this name, as *Lucia limbaria* (Swainson), with "*Lycaena pyrodiscus* Leach mss" as a synonym, for five specimens in the British Museum (Natural History), as follows:

"a, Australia;

b,c, Australia. Presented by the Entomological Club;

d,e, Australia. From Mr Beckers collection".

These specimens may be regarded as the syntypes of *Lycaena pyrodiscus* Doubleday as they represent Doubleday's concept of Leach's manuscript name. Waterhouse (1937b), after locating some of these specimens in the British Museum (Natural History), concluded that Doubleday had misidentified *L. limbaria* since Doubleday's specimens did not agree with Swainson's figure. *Lucia limbaria* is now placed in a separate genus and need not be further discussed here. Many new names included by Doubleday (1847) are *nomina nuda* but *Lycaena pyrodiscus* Doubleday was first published in synonymy. As such its validity, according to the Code, depends upon its subsequent usage.

Rosenstock (1885) described *Lucia pyrodiscus* Rosenstock as a new species adopting a Newman manuscript name. He based the name on a single specimen. An examination of the holotype in the British Museum (Natural History) shows that it was correctly identified by Waterhouse and all subsequent authors.

In establishing the genus *Paralucia*, Waterhouse and Turner (1905) had cited *Lucia pyrodiscus* Rosenstock as its type species and included as a

second valid species *Thecla aurifer* Blanchard ([1848]). Waterhouse (1903) treated *Chrysophanus aenea* Miskin (1890) as a junior synonym of *L. pyrodiscus* Rosenstock and this was accepted by all subsequent authors until 1937.

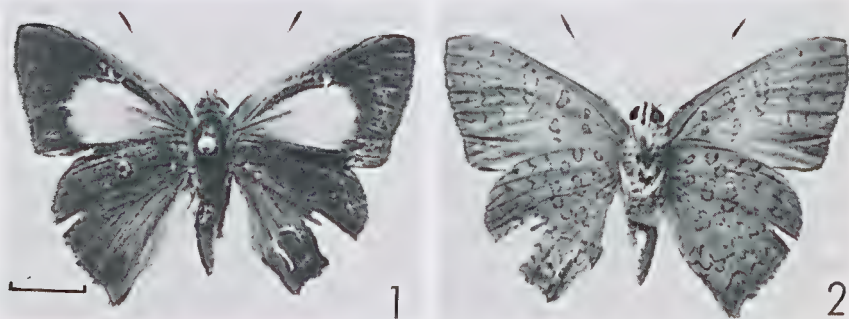
In that year Waterhouse (1937b) treated *Paralucia pyrodiscus* (Rosenstock) (the type species of *Paralucia*) as a junior secondary homonym of the "*Lycaena pyrodiscus* Leach mss" that had been published in synonymy by Doubleday (1847). In so doing he was treating, prior to 1961, *Lycaena pyrodiscus* Doubleday as a senior homonym of *Lucia pyrodiscus* Rosenstock. This brings the names within the ambit of Article 11e of the third edition of the International Code of Zoological Nomenclature which provides that such a senior homonym is available from its original publication in synonymy if so treated before 1961. Thus *Paralucia pyrodiscus* (Rosenstock) is a junior homonym and invalid. All authors subsequent to 1937 used *P. aenea* (Miskin) as the valid name for the type species of *Paralucia* until Common and Waterhouse (1972) treated *Paralucia pyrodiscus* (Rosenstock) as valid, thus reversing the previous practice.

Waterhouse (1937a) located in the British Museum (Natural History) two of the five specimens listed by Doubleday (see above). Each of these bore a label "46-46" and the museum register showed that they had been purchased from Becker. They were undoubtedly Doubleday's specimens d and e. Waterhouse identified these specimens as *P. aurifera* (Blanchard) (on the basis of Blanchard's plate) which would thus be synonymous with *P. pyrodiscus* (Doubleday). Although he was apparently uncertain of the date of Blanchard's plate and thus of which of the two names was senior, he did treat *P. pyrodiscus* (Doubleday) as a senior homonym and substituted *P. aenea* (Miskin) as a replacement name for *P. pyrodiscus* (Rosenstock). But he did not replace *P. aurifera* (Blanchard) by *P. pyrodiscus* (Doubleday). It is now known that Blanchard's plate was published in 1848 (Couchman 1948) so that *P. pyrodiscus* (Doubleday) would clearly be the senior synonym. Couchman (1956) while agreeing that *P. pyrodiscus* (Doubleday) and *P. aurifera* (Blanchard) were synonymous gave priority to *aurifera* listing *pyrodiscus* (Doubleday) as a *nomen nudum*. Although not in accord with the current Code this is the accepted usage.

On my behalf Mr P.R. Ackery located in the British Museum (Natural History) Doubleday's specimens d and e which Waterhouse (1937a) had identified (correctly) as *P. aurifera*. Ackery also found a third specimen, labelled "Ent Club 44-12" and "146b". This is undoubtedly Doubleday's specimen b, presented by the Entomological Club in 1844. Waterhouse, in manuscript notes, traced the origin of the label "146b" to an old register which listed the specimens in the same

manner as Doubleday. This register cannot now be located. Photographs kindly sent by Ackery (see Figs 1 and 2) show that specimen b is conspecific with the holotype of *P. pyrodiscus* (Rosenstock). It is clear therefore that Doubleday had a mixed series including both the species now recognized as *P. aurifera* and *P. pyrodiscus* (Rosenstock).

A judicious choice of lectotype enables the prevailing nomenclatural confusion to be resolved and current usage to be substantially preserved. If specimen b were selected as lectotype of *P. pyrodiscus* (Doubleday) (rather than d or e) the name *pyrodiscus*, while credited to Doubleday would be used for the species designated by that name by Rosenstock. *P. aurifera* would be released from synonymy with *P.*



Figs 1-2. Lectotype male *Paralucia pyrodiscus* (Doubleday); (1) upperside; (2) underside. Scale bar 5 mm.

*pyrodiscus* (Doubleday) to be used in the sense of Waterhouse (1903) and later authors and *P. aenea* (Miskin) would remain a junior synonym and not be needed to be substituted for *P. pyrodiscus* (Rosenstock) as the type species of *Paralucia*. Most importantly the name *pyrodiscus* would not become the valid name for the species always known as *aurifera* and so not be transferred from one species to the other. Furthermore the specimen represents the subspecies found in New South Wales and Queensland and so does not disturb the use of *lucida* Crosby for the well-publicised populations near Melbourne.

The specimen in the British Museum (Natural History) labelled "Ent. Club 44-12" and "146b" is hereby designated as the lectotype male of *Lycaena pyrodiscus* Doubleday. The specimen is figured in Figs 1 and 2.

The ensuing synonymy in *Paralucia* is therefore:



*Paralucia* Waterhouse and Turner, 1905. Type species *Lycaena pyrodiscus* Doubleday, 1847 (cited as *Lucia pyrodiscus* Rosenstock, 1885).

*pyrodiscus* (Doubleday, 1847) (*Lucia*) first published in synonymy, validated by Waterhouse, 1937.

*pyrodiscus* (Rosenstock, 1885) (*Lucia*) nec (Doubleday, 1847) (*Lycaena*)

*aenea* (Miskin, 1890) (*Chrysophanus*)

*lucida* Crosby, 1951 (*Paralucia*)

*aurifera* (Blanchard, [1848]) (*Thecla*)

### Acknowledgements

I thank Mr P.R. Ackery, British Museum (Natural History), for locating Doubleday's specimens and providing the photographs of the lectotype. Dr K.H.L. Key assisted greatly with the manuscript and Drs E.S. Nielsen and M. Horak also critically read the manuscript.

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